

THE IBIS.

No. XXI. JANUARY 1864.

I.—*Notes and Observations on the Birds of Egypt and Nubia.*

By DR. A. LEITH ADAMS.

THE following notes on the birds of Egypt and Nubia were made during November and the two following months, whilst performing the usual voyage up the Nile from Cairo to the Second Cataract. They can, therefore, have no pretence to anything like completeness, as, independent of the short time expended on the excursion, I had not an opportunity of examining the Delta. Moreover, there is not much to add to the avifauna of a country so well known, excepting, perhaps, a few particulars connected with the range, varieties, and distribution of species which may have escaped the numerous competent naturalists who have visited Egypt and Nubia. There is, however, a point of no small interest connected with Egyptian ornithology, which must always be attractive to the student. I refer to the identification of the hieroglyphic characters with the present denizens of the country,—in fact, their “range in historical time,” which dates back to some of the earliest world-known records. Thus we are enabled in a measure to compare the familiar denizens of the Nile Valley 4000 or 5000 years ago with the present inhabitants, and in some degree to show how little they have been affected, either numerically or physically, by what appears to ordinary observers a vast period. As specimens of artistic skill, many of the early delineations are perfectly wonderful.

Allowing for the excellent material at hand, and the preserving influence of climate, the figures on the granite obelisk of Karnak, done in the time of Tuthmosis I., display, especially with reference to the birds, a clearness of expression, a boldness and a truthfulness of outline, in every way surprising. Standing among the broken fragments of its sister obelisk, and looking upon the polished sides of this noble work of art, one can scarcely realize the idea that, since its construction, better than thirty-four centuries have passed away.

Although many species of birds have been found embalmed in tombs and pits, it is not clear that all were sacred. Perhaps whatever animal appeared on the hieroglyphic writings, and was not used as an article of food, may have been occasionally buried in that way ; however that may have been, it is certain that the White Ibis, and probably two or more species of Hawks, including the Kestrel, were sacred, and kept at the public expense. This is not only evident from history, but also from the great numbers of their mummies, which would scarcely have been so plentiful had merely the bodies of stray individuals been collected, and more especially as the punishment of death awaited whoever killed an Ibis or a Hawk, either by design or accident.

Owls, Sparrows, Bare-headed and Egyptian Vultures, &c. have been found embalmed, but only occasionally, and rarely more than one or two at a time. Diodorus, Cicero, and others say that the Ibis and Hawk were worshipped because these birds destroy "scorpions, horned snakes, and noxious creatures which endanger life." Were the ancient Egyptians aware at the same time that the Kestrel preyed most extensively on all species of their beloved *Scarabæi*, including the most sacred emblem of the sun and of the world ? The supposition that all Vultures were females led to their adopting this bird as the representative of maternity and protection ; accordingly the Bald-headed Vultures, with outspread wings, on the ceilings of the temples secured protection to the worshippers.

Egypt and Nubia, viewed from an ornithological stand-point, present very different physical as well as geological features. The great expanse of cultivation in the low country, and various outlets of the Nile at the Delta, with their shallows, marshes,

and sand-banks, offer excellent retreats for water-birds, which decrease in proportion southwards. The great wave of winter visitors impinges as it were on the Delta, and moves on gradually, decreasing where local circumstances are inimical, and continuing only where the advantages are great. Thus, after passing the first great barrier at Asowan and proceeding southwards, we suddenly notice the absence of all the Geese, Ducks, and Waders which crowd the shallows below the First Cataract. A few Falcons scour the narrow strips of cultivation. The Chats and Sand-larks we had to search for, in Lower Egypt, far inland, are now seen hopping among the sandstone-cliffs and wastes along the river's bank, whilst the Hooded Crow and other familiar tenants of the north country have all but disappeared; nor do we penetrate far south before the *Timaliinae* and *Pycnonotinae* show we are on the confines of a new ornithological province, the outposts of which are at the Second Cataract. But even that far south there seems little or no diminution in the numbers of certain well-known European species; for in the beginning of January the Pied Wagtail was seen sporting in hundreds along the banks at Wadai Halfeh, and the Chiff-chaff and Lesser Whitethroat were even more plentiful than in the districts we had just left. How much further south do these birds penetrate before the time comes for their retrograde movements?

The sycamore, acacia, palm, and tamarisk are the chief and almost sole trees of the country. The first grows most plentifully in Lower Egypt, but seems to decrease in numbers southwards; its umbrageous spreading boughs offer tempting retreats for insectivorous birds, and its topmost branches a safe position for the nests of the Black Kite and Hooded Crow. The acacia of the Nile, with its deep-green leaves, throws a grateful shade around the native dwellings, but is not so generally or extensively distributed as the common "camel-thorn," which is spread over Egypt, and extends into Nubia, lining the river's bank for many a long mile, either in thickset bush, overgrown with creepers and spider-webs, or single gnarled old trees, among the branches of which the Chameleon may often be seen. The palm is by no means a fitting resort for birds; and wherever

solitary groves of date-trees exist, you may wander among their tall trunks for hours and, except near the villages, not meet with a bird of any description. It is evidently the want of forest, bush, and thicket in Egypt that accounts for the scarcity of true Shrikes, the paucity of *Sylviidae*, and the total absence of Woodpeckers. The cliffs of nummulitic limestone and siliceous sandstone at various points on the river, both in Egypt and Nubia, afford excellent retreats for Raptores, Rock-Pigeons, Herons, Cormorants, &c. Here, among the ancient rock-cut tombs of man, or the still immeasurably older excavations of primeval Nile, they rear their young undisturbed. Yet the scenery of both these countries is often very tame. Their botanical productions are neither varied nor interesting, and there is no great diversity of birds, which, however, make up for this by their exceeding numbers. Along the banks of the river the Spur-winged Lapwing, Common Sandpiper, Black-headed Plover, Pied Kingfisher, and Wagtail are plentiful. Spanish Sparrows in thousands, and semi-domesticated Blue Pigeons, scour the country. The pretty Blue-breast, Robin-like, is seen hopping around the margins of fields. Crested Larks, in myriads, chirp, flutter, and rise before you. The Kestrel and Black Kite are hovering about, whilst the mud-built villages and their never-failing date-trees resound with the incessant chirp of the House-Sparrow and the soft cooing of the Senegal Dove. Proceeding desert-ways, we bend our steps across rich fields teeming with splendid crops of dhurra, until gradually the alluvium becomes less heavy, and at last suddenly terminates at a well-marked and abrupt line of demarcation, which records the limits of the year's inundation. Then we come on the Russet Wheatear, Pied Chats, and the Trumpeter Bullfinch, on the verge of the desert, which in long-drawn sandy wastes stretches far and wide. On the Arabian side, however, cliffs of tertiary limestone run along the bank, and in broken ridges extend north and south, advancing and retiring from you according to the devious windings of the river. Such is a transverse ornithological section of the Nile Valley a short way above Cairo.

In Nubia we have a very different appearance. The river's bed has now become narrowed by the porphyritic rocks of the First Cataract, and by the secondary sandstone, which forms steep

banks, where the river's deposit is prevented from accumulating, except at bends and openings out in its course. There are banks of alluvium, covered with dates and patches of cultivation. How long the Nile has maintained its present level we cannot conjecture; like its avifauna, there has been no apparent change within the historical period*. On the verge of the cultivated parts are seen the mud-hovels of the natives, and still higher is a plateau covered with stones and drifted sand; but if you dig a few inches a reddish soil will be found, among which are strewn abundance of Unionidæ, Cycladidæ, and Paludinidæ, identical with species now living in the river; many of the first (*Ætheria*) are found attached to the old rocky bottom. In vain we surmise when "Father Nile" covered that flat†, on which nought is now seen excepting an occasional White-capped and Black Chat or a solitary Stone Plover. Still further on the fine yellowish-white sand of the desert is seen, in drifts and wreaths, on the flanks of isolated conical hills, which break in some degree the eternal sameness of the country. In that wide, wild wilderness the Hyena, Fox, and Ichneumon prowl, and the Gazelle has its midday retreat, until dusk, when all move towards the river's bank, to feed after their various ways. Such is Nubia near the Second Cataract; further southwards, of course, the interest in the fauna, flora, and geological aspect increases; but, as already stated, the Second Cataract formed the *ultima Thule* of my wanderings. The late valuable contributions to the ornithology of the Upper Nile, by Dr. Heuglin, show what diligent labour will accomplish; he has, besides, given us much information concerning certain Egyptian birds which frequent that country during summer. The defect in our knowledge of the avifauna of Egypt is, I believe, that we are in possession of lists of birds procured during the cold months, but that there is no connected account to show the time of arrival and departure of indi-

* Much interesting information on this head was collected by my late lamented friend and companion, Mr. Rhind, whose labours in Egypt and elsewhere are familiar to every student of archæology.

† I found freshwater shells at various levels in Nubia. At Der, shells were met with at an elevation of 110 feet above the highest Nile of the present day. (See Quart. Journ. Geol. Soc. of London, 1863.)

vidual species, and the influence of local circumstances as to food, climate, or the inundation, in hastening their migrations,—information which can only be obtained by persons resident in the country throughout the year. Of the vast numbers of migratory birds which cross the Mediterranean twice annually, a small portion come in the way, and make a temporary resting-place of Malta, affording us the means of comparing them with those of North Africa. With reference to the birds found abundant in Egypt during my excursion, the following arrive in Malta in great numbers in March, April, and May:—the Kestrel, Pale-chested Harrier, Black Swift (this arrives in the latter part of April, and remains all the summer), House-Swallow (evidently however not from Egypt, as will be seen in the sequel), Hoopoe, Willow Wren, Chiff-chaff, Greater and Lesser White-throat, Stonechat, Wheatear, Red-throated Pipit, Yellow Wagtail, Pied and Boarula Wagtails, Linnet, and Quail. They come in either singly or in flocks; sometimes the little wanderers, unconscious of obstructions in their way, strike against the walls of the fortress and lighthouses at night. Again, during gales, the smaller birds may be seen drifting before them, and Quails in numbers coming in, flying within a few feet of the sea, whilst the large birds, such as Hawks, &c., are usually observed at high altitudes.

The birds contained in the following list were either shot by myself or verified from collections of fellow-travellers, long experience having taught me that the pernicious custom of identifying birds on wing, or from casual examination, cannot be too strongly reprobated; there are, of course, exceptions to be made where circumstances warrant. The above habit unfortunately grows on individuals, and more so with the roving traveller who takes to the study of natural history as an occupation, or with him who observes in the midst of his more important duties. Every naturalist, old and young, should remember the words of the Mantuan bard—

“O formose puer! nimium ne crede colori.”

Such species, in my collection, concerning the names of which I have any doubts, I take the liberty of forwarding to Dr. Selater,

to whom I am greatly indebted for valuable aid on former occasions*.

NEOPHRON PERCNOPTERUS

Breeds among the lofty crags along the banks of the Nile, in Nubia. The iris is brown in young birds and until the second year, when it becomes reddish, more so in the old †. The adult plumage is not attained until the third and fourth year, as I observed in a tame specimen in my possession. Being the *Rakham* of the Arabians and Hebrews, this is the *Gier Eagle* of Leviticus xi. 18. The Egyptian Vulture is frequently represented on the sculptures; but there is no proof that it was worshipped. The "bird and globe," representing a king or Pharaoh (according to Horapollo, "an Eagle"), is not feathered to the toes, and its slender bill and general outline bear a greater resemblance to the *N. percnopterus*.

GYPS FULVUS.

Is plentifully distributed over Egypt and Nubia, assembling in great numbers on carcasses, and at very short notice; seldom, however, a day passes that several may not be seen soaring at vast heights. In common with its congeners, this species is timid and easily driven from its repast. I witnessed a Hooded Crow disperse three Griffon Vultures which were feeding on a stranded carcase in the river.

VULTUR CINEREUS, Gm.

The dark plumage of this Vulture serves to distinguish it from the last, even at great altitudes. The Griffon, Cinereous, and Egyptian Vultures may be frequently observed sharing together the same repast. The Cinereous, although not so common as the Griffon, is generally distributed over Egypt and Nubia. I can find no authentic information of either the *V. auricularis* or *Gyps vulgaris*, of Savigny, having been met with in these countries of late years. Besides the signification of "mother," the Vulture was sacred to the Egyptian Minerva and Lucina,

* I have attached my initials to my remarks on these specimens, and to the names when I have altered them.—P. L. S.

† I here take the liberty of correcting an error in my paper on the "Birds of India," Proc. Zool. Soc. 1858, wherein I have stated the *iris* to be yellow.

appearing as their head-dress and that also of the queens of the country. The colouring of all I have seen on temples is in a degree whimsical, but in outline they show great artistic skill. Several delineations of Vultures on the walls of a recently excavated temple at Thebes are remarkably well done. Perhaps Ælian (lib. ii. 46) refers to the Cinereous Vulture when he mentions that the Black Vulture of Egypt was originally the produce of an Eagle and a Vulture. Mummies of bare-headed Vultures have been found at Thebes.

GYPÆTOS BARBATUS.

On the 14th November, 1862, whilst crowning the summit of the Great Pyramid, I came most unexpectedly on a Bearded Vulture which had been resting on the platform at the apex. Not having seen another during my subsequent travels in Egypt and Nubia, I would have hesitated now in recording its appearance in Lower Egypt so far north as the Pyramids of Gizeh; but being perfectly familiar with the bird, from previous observation on the Himalayan Mountains, I had not the slightest difficulty in recognizing my old acquaintance. I have no doubt the individual in question was a straggler, attracted by the isolated conical aspect of these great landmarks; for, after a few circular sweeps around their sides, he steered his course eastward towards the Mogattam Hills. The ferruginous dust found among the feathers of the front of the neck, crop, and lower parts was, in all I shot on the Himalayas, confined to adults, and to individuals assuming the rufous white on the belly.

AQUILA NÆVIA

Is the most common Eagle in Egypt, and may often be seen either in fields hunting after reptiles and small quadrupeds, or feeding on fish on the sand-banks. I found portions of a large snake in one killed near Thebes, and on another occasion surprised a pair intently devouring a large *Lepidotus* (*Characinus dentex*, Sav.). I take the bird of Egypt to be the true *nævia*. A male specimen had large elliptical spots on the upper parts of the body, a rufous tinge on the vent, and measured $25\frac{1}{2}$ inches in the flesh.

Aquila pennata I saw on several occasions, but did not pro-

cure specimens. Although both Diodorus and Strabo say the Eagle was worshipped at Thebes, "there appears good reason to think they were mistaken, and that the Hawk was the bird they ought to have substituted"*. An Eagle frequently occurs in hieroglyphics, where it has the force of the letter A †.

PANDION HALIAËTUS

Is a characteristic denizen of the sand-banks and shallows of the Nile, especially in Lower Egypt. I did not observe it in Nubia.

BUTEO RUFINUS, Rüpp.

This is the most common Buzzard in Egypt during the cold months; it affects the open country, and hunts along the canal-banks after Rodents, lizards, snakes, and frogs. According to Heuglin ‡, the Common Buzzard is seen occasionally during the winter in Egypt. Rüppell speaks of it as being found "everywhere in N.E. Africa." I did not notice one individual during my excursion. In fields on the left bank of the river, opposite Beni Hassan, I followed a large Buzzard one morning, but unfortunately could not get within shot. Its upper parts were bluish ash, lighter about the head; breast and belly white, with cross barrings of black; legs yellow. I presume the above may have been the *Circaëtus beaudouini* of Verreaux.

MILVUS ATER (Gm.).

This is the most common Kite in Egypt, and, like the *M. govinda* of India, frequents towns as well as the open country, breeding in trees and rocky situations. I have taken its nest and young in January. The iris is dark brown in the adult, but in several young and immature birds it was found to vary from a light yellow to greyish brown. The similarity in these respects also in plumage of certain varieties of the Govinda Kite and the above is very striking. The ♂ and ♀ of both measure likewise 21 inches in length in the flesh.

MILVUS ÆGYPTIUS (Gm.)

Is much less common than the last, and apparently more

* Wilkinson's 'Ancient Egyptians,' vol. ii. p. 294.

† Ibidem.

‡ Ibis, 1861, p. 76.

southern in its range. I did not observe the Egyptian Kite until near the First Cataract, where, along with the Black Kite, it was seen at Edfoo, hunting around the village dove-cots, and chasing the young Pigeons, which it torments until they drop exhausted, when the Kite bears them off in its talons. I have noticed the Govinda Kite do the same in India. The natives catch the Kites by means of traps baited with Pigeons, and placed on the tops of palm-trees. The bright white bill and heavier appearance will serve to distinguish this from *M. ater*, although immature individuals of these two species are very much alike in plumage and colour of bill, and iris. The adult *M. ægyptius* has the iris a shade lighter than *M. ater*, and is about an inch longer; moreover it is not so familiar in its habits, and is more often observed in rocky, out-of-the-way places.

ELANUS MELANOPTERUS (Daud.)

Is more abundant in the Delta than above Cairo, and seems to decrease in frequency towards Nubia. The ornithologist will be struck by the numbers of this pretty little Hawk observable in the cold months along the railway route between Alexandria and Cairo.

FALCO PEREGRINUS.

FALCO LANARIUS, L.

FALCO BIARMICUS, Brehm.

The Peregrine is not uncommon along the river route. In dissecting a specimen shot near Thebes, I found coils of a long thread-worm in the intestines and cavity of the abdomen; the same was noticed in another individual procured on the banks of the Indus*. In both cases the birds were plump and in good condition. The Egyptian specimen was a ♀, and measured 18 inches in the flesh. I examined a specimen of the Lanner which was shot in Upper Egypt. *F. biarmicus* is not uncommon in the rocky parts of Nubia: I procured one specimen and noticed many more. I recommend Nubia as a very suitable locality for studying the affinities of the two last-named Falcons and their immediate congeners. There are several large mous-

* See Proc. Zool. Soc. 1858, p. 472.

tached Falcons among the hieroglyphic writings, and also on the walls of the temples and tombs; but all are so extravagantly coloured that there is no possibility of making out the species*.

CERCHNEIS TINNUNCULUS, Boie.

The Kestrel is the most common Falcon in Egypt. I did not observe its congener, *C. cenchris*; but Heuglin says, "it is very common in Lower Egypt during spring, especially around Alexandria"†, possibly on its way northwards, as it may be met with in numbers at that season in Malta. The Kestrel was the emblem of Horus, Re, or the sun, and a host of other gods. This is apparent from the mummied specimens, intaglios on the monuments, and the usual wooden representations on the lids of coffins. There is little doubt, however, that other closely allied species, such as *T. cenchris*, may have frequently been mistaken for, or perhaps considered identical with, the sacred bird, and accordingly worshipped and embalmed. The bird of Horus is represented with a black spot under the eye, red and black barrings on the back, with reddish white on the lower parts, which are more or less spotted with black. Mummied Kestrels are found in great numbers, and, with the Ibis, have frequently been discovered in coffins along with human mummies. Its part in the symbolism of Egyptian worship is thus described by Mr. Rhind:—"The Hawk was the symbolic bird of that important functionary of Amenti, Horus, who, after having first taken part along with Anubis in weighing the good and bad actions of the trembling souls, ushered those whose welcome was secured into the presence of Osiris."‡ On that account the Hawk was held in great veneration, as we learn from Herodotus and Diodorus that, "in Egypt, whoever kills an Ibis, Hawk, or Cat, either wilfully or by accident, must necessarily be put to death,"—a bad look-out for ornithologists in these days! Moreover, Diodorus states that every trouble was taken to preserve them, and that they were fed by the natives, who not only kept Hawks in captivity, but were in the habit of placing flesh and food in the

* Wilkinson's 'Ancient Egyptians,' vol. ii. p. 207.

† Ibis, 1861, p. 72.

‡ 'Thebes, its Tombs and their Tenants,' p. 100.

way of wild individuals. The claws of many mummied Kestrels examined by me were all sharp, and unlike those of tamed Hawks long habituated to close confinement. At the present day the Kestrel is one of the most familiar birds of Egypt; indeed, more so than perhaps is observed in any other country. I have often been enabled to approach the Kestrel within a few yards, whereas the Sparrow-Hawk and the other small Raptores seem in no wise different in habits from those of the same species I have noticed elsewhere. Whenever a Hawk died, its body was handed over to the embalmers, and subsequently deposited in a sacred tomb. It mattered not where or how it had died, in common with other sacred animals, it was wrapped in linen cloth, and followed to the grave by a procession of mourners, whose outward signs of grief were shown by beating their breasts, and by such voluntary penances as testified to the veneration with which these animals were held. Even the Hawks which died in foreign countries were embalmed and brought to Egypt. There is every reason to suppose ancient authors were correct in stating that the animals held sacred were those man found most useful towards his well-being. The Hawk was partially revered at Philæ, and worshipped at Heliopolis, where, as in other Egyptian cities, it was considered the type of the Sun and representative of the deity of the place. It appears, however, that the Hawk Strabo saw at Philæ was different from any he had seen in Lower Egypt or Greece; he says "it was larger, and very different in the marks of its plumage, and that it was a native of Ethiopia" *.

ACCIPITER NISUS

Seems more common in Nubia than in Egypt, where it may be often observed, scouring along the narrow strips of cultivation on the river's bank in quest of the Chiff-chaff, Pied Wagtail, and Red-throated Pipit. It has no favour for the Kestrel, and seldom loses an opportunity of annoying the little creature. Coupled with the impertinent attacks of Kites and Hooded Crows, the Kestrel appears to enjoy little peace or comfort. Several male Sparrow-Hawks measured in the flesh $12\frac{1}{2}$ inches,

* Lib. xvi. 49.

the cheeks, breast, and flanks sparingly marked with rufous; the females 15 inches, with very clear plumage and regular cross-barrings on the lower parts, without any rufous on the plumage.

CIRCUS ÆRUGINOSUS.

Individuals in various stages of plumage, including those figured by Yarrell and Bewick, were observed both in Egypt and Nubia. I noticed one feeding on a decomposed fish on a sand-bank near Thebes.

CIRCUS PALLIDUS *.

This is the Common Harrier, and may frequently be observed hunting the wheat-fields. I have not seen *C. cyaneus*, which, however, appears to have been *killed* in Egypt †. Several adult and young males in the garb of the female measured in the flesh, as near as possible, 16½ inches. I am inclined to think that *C. pallidus* is very much more common than *C. cyaneus* in the South of Europe and North Africa.

ATHENE MERIDIONALIS, Risso.

My specimens are certainly paler than *A. noctua* (Retz.). Several males and females measured 6 inches in length. It is a regular tenant of the palm, tamarisk, and acacia groves, and apparently hunts along the canal-banks in Lower Egypt during the daytime. This is undoubtedly Minerva's bird, but authorities question if it was held in the same veneration in Egypt as in Rome. I once saw the Horned Owl on wing (*Bubo ascalaphus*, Sav. (?)), and found a dead individual of *Strix flammea* in Nubia. A Horned Owl, and perhaps the last species, very frequently occur both in the hieroglyphic writings and on the walls of the tombs, &c.; none, however, appear to have been sacred. Mummied Owls have been found at Thebes ‡.

CAPRIMULGUS ISABELLINUS, Temm.

I accidentally came on a pair asleep, at midday, among sand-

* I presume Dr. Adams means *Circus pallidus*, Sykes, which is generally (and better) known as *C. swainsoni*, Smith. *Circus cineraceus* (Montague's Harrier) has also been called *pallidus* by Hodgson.—ED.

† Taylor, Ibis, 1859, p. 46.

‡ Wilkinson, *op. cit.*

dunes on the banks of the river in Nubia. This species passes the day on the sand of the desert, where it makes a temporary hollow like a nest.

CYPSELUS APUS.

The climate of Lower Egypt is apparently too cold for this bird in winter, as I did not observe it until we reached the Thebaid, where and southward it is very plentiful. *C. melba* was not seen.

COTYLE RUPESTRIS.

Is generally distributed over Egypt and Nubia in winter; at that season it takes the place of *C. riparia*, which, however, seems to breed in Egypt in February*. I did not notice a single specimen of the latter during my excursion. Flocks of the Crag Swallow may be often seen skimming noiselessly along the surface of the river and stagnant pools, also around the acacia-trees in Nubia, where insects abound; its easy and comparatively feeble mode of flight is noticeable, compared with that of the Sand-Martin. The irides of many procured in Egypt were light brown, not *yellow*. Some males are much darker in plumage than others; this I noted particularly in one individual shot in Upper Egypt.

HIRUNDO RUSTICA.

I think I have seen one or two on wing with pale reddish-white lower parts, but the *H. rustica orientalis* of Schlegel is the Egyptian Swallow. It is plentifully distributed over town and country in Lower Egypt, getting less common southwards. At Thebes it is rare, at least during the cold months; and I did not observe a single individual after leaving that district and proceeding towards the Second Cataract. The Swallows which touch at Malta in spring, on their way northwards, are, as a rule, similar to the northern visitors: some have rufous-white bellies, but none are so deep rufous as the Egyptian specimens, in which the spots on the tail are of the same colour. The measurements of specimens killed in Malta and Egypt were equal. According to Wilkinson, the Swallow has been found mummied at Thebes. There is a bird in the hieroglyphics, intended to signify

* Tristram, *Ibis*, 1859, p. 27.

“prolific,” which Horapollo calls a House-Sparrow ; if it be the same as Sharpe * mentions in his note to the above, there can be little doubt of its similarity to the Swallow, as may be seen in the illustrations in this author’s work, and still better on the granite obelisk at Karnak.

MEROPS VIRIDIS.

There seems to be no variety among the Egyptian specimens I have examined—a noticeable circumstance when the *rufous-necked* and *verditer-throated* varieties of India and the Lower Himalaya are considered. The cold of Lower Egypt in December and January seems trying to this species, which is the only Bee-eater that braves the climate then. *M. persicus* arrives in April. I have seen the above and the Chiff-chaff almost benumbed by a temperature of 40° Fahr. in the shade. It is, however, a lively little creature on sunny days, and may be seen sporting about with great vigour, now shooting from the extremity of an acacia-branch, anon flitting from furrow to furrow in a newly-ploughed field ; now four or six are clustered together on a branch, then suddenly, with loud shrieks and chatterings, they break off in divers directions. It is withal a stupid bird, and allows one to approach within a few feet : not even the report of a gun seems to frighten it.

ALCEDO ISPIDA.

CERYLE RUDIS.

The Common Kingfisher was observed often on the way between Alexandria and Cairo ; it, however, became less common southwards, and eventually disappeared soon after leaving the latter city. The Belted Kingfisher is common wherever there are shallows and sand-banks, but is rarely seen between the First and Second Cataracts, as the shallows there are few and far between. It breeds early in December. All the male specimens (six in number) procured by me had a double collar, whereas in the female specimens (two in number) there was only one black collar.

UPUPA EOPS

Is extensively distributed over Egypt and Nubia during the

* ‘ Egyptian Hieroglyphics,’ p. 33, plate xxvii. nos. 1600 to 1606.

winter months, migrating to Europe in spring. Ælian* says the Egyptians respected the Hoopoe for its love of its young (?). In the "bird-writing" it signifies a "brick," perhaps from its disposition to perch on the crude brick walls of the native huts. On the wall of one of the famous tombs at Beni Hassan a bird-catcher is seen hauling his clap-net, which is filled with Geese and Ducks, whilst on a tree by his side, among other birds of the country, is the Belted Kingfisher, Hoopoe, and Pied Wagtail. The latter, excepting a little exaggeration in colouring, has been drawn with great accuracy. The Hoopoe is exceedingly well done, and, in common with many of the other delineations, retains the brightness of its colouring, although at least 3800 years have gone by. It is interesting to observe that the familiar tenants of the Nile Valley in those days were the same as now; possibly they may at present be more plentiful, as Egypt was evidently then more densely populated by the human race.

PHYLLOSCOPUS TROCHILUS.

Several specimens were procured in Nubia in January. I think it may turn out to be common in Egypt likewise, as I have reason to think I overlooked it in consequence of its similarity to the next species.

PHYLLOSCOPUS RUFUS.

Measurements of many procured in Nubia and Egypt, from the beginning of November to the end of January, showed the length of males to average in the flesh $4\frac{1}{2}$ in., females $4\frac{5}{16}$. This is evidently only a winter visitor, arriving from Europe in vast numbers towards the latter end of September. I have heard its characteristic call as late as the beginning of November at Cairo. The numbers of this bird in the dhurra-fields, gardens, &c., up to the end of February are surprising. Its note is changed in winter to a "*hoit*," like that of the Willow Wren, but not so strong and loud. *P. bonellii* I have procured in Malta in spring during its migration northwards, but failed to meet with it in the Nile Valley.

SYLVIA MELANOCEPHALA.

The Sardinian Warbler is very common in Nubia, frequenting

* Nat. An. x. 16.

the impenetrable bushes of camel-thorn, where it secretes itself on the slightest appearance of danger. The white of the lower parts in all I examined in Nubia was not so clear as in many procured in Malta during its migration northwards in spring.

SYLVIA CURRUCA.

Among the acacia and thorny bushes which line the Nubian desert; it is a lively sight, during a clear sunny day, to witness numerous Lesser Whitethroats, Chiff-chaffs, and Sardinian Warblers flitting among the countless cobwebs which stretch in tangled meshes from every twig. As the Chiff-chaff flutters like a Humming-bird around the fragrant yellow flowers of the acacia, emitting its lovely "*hoit*," the Whitethroat moves along stealthily among the twigs, now and then seeking the denser parts to chant its sweet melodious song, while the Sardinian Warbler sits picking the cobwebs to pieces in search of their owners. I procured one specimen of *Sylvia cinerea* in the Thebaid; it is not nearly so common as the Lesser Whitethroat.

SUYA GRACILIS.

This is in all probability the *Sylvia tatrix* of Savigny*, but whether to consider it the same as *Prinia gracilis* of Rüppell I am not in a position to determine†. It is an active little creature, and has the restless manner and noisome call of its congeners, the *Priniae* and *Maluri*. The iris is brick-red; the call a loud "*creek*," like that of the Common Wren. It readily secretes itself in thick bush, where its presence is usually discovered by the rough notes invariably uttered when its haunts are approached. This species is common both in Egypt and Nubia.

CYANECULA SUECICA.

It would seem that all the southern and oriental specimens of this bird have the breast-spot *red*. Sometimes in Indian and Egyptian individuals I have noticed a dash of white around the borders or tipping the feathers of the breast-spot; this, however, is by no means regular, and seems the result of age.

* 'Egyptian Expedition,' pl. 5. fig. 4.

† I believe this is *Prinia gracilis* of Rüppell's 'Atlas,' t. 2. fig. b. It is, however, as Mr. Swinhoe informs me, a true *Suya*, congeneric with *S. lepida* of India and *S. striata* of Formosa.—ED.

The Blue-breast is plentiful in all cultivated parts of Egypt and Nubia.

RUTICILLA PHENICURA.

Not uncommon in Lower Egypt, and seen at Thebes. I found it at sea, migrating southwards, in the beginning of November. At that season it arrives in Malta, where a few spend the winter, but the majority proceed to Egypt and North Africa.

RUTICILLA TITHYS.

The two female specimens I procured in Nubia have the entire plumage ashy brown, excepting the russet of the rump and tail, and the margins of the eyelids grey; no trace whatever of a fringe on the secondary quills. These peculiarities agree with the *Eri-thacus cairii* of Degland. I forward the specimen for examination. It frequents the ruined forts and desert stony places, and is by no means common.

PRATINCOLA RUBICOLA.

Seen, now and then, all the way to the Second Cataract. Females predominate. I think there is more dull red on the Egyptian than on the English bird, especially on the rump and throat. The Whinchat was not observed.

DROMOLÆA LEUCOCEPHALA, Brehm: (Ibis, 1859, p. 298).

From its white head, this handsome Chat might be mistaken on wing for *Saxicola leucomela*; otherwise it is exactly like the Black Wheat-ear (*D. leucopygia*), with which it was often seen associating. Among the sterile wastes of Nubia, around deserted villages and the ruined temples of the Pharaohs, it delights to sport. On the carpus and bastard wing of two male specimens a white feather was observed. The average length is $6\frac{3}{4}$ inches.

DROMOLÆA LEUCOPYGIA, Brehm: (Ibis, 1859, p. 297).

Is closely allied to *D. leucura*. The two upper tail-feathers have about two-thirds of their distal extremities black, the tips of the others being more or less marked with the same colour, which seems to vary in degree in different specimens; the rest of the tail, vent, and lower portion of the back snowy white; remainder of the plumage glossy black, excepting the wings, which are brownish black in all my specimens (females). The average length is $6\frac{1}{4}$ inches. This is the

most common Chat in Nubia, and is familiar in its habits, frequenting villages and ruined buildings along with the last species; it often flew on board our boat, and picked up crumbs on deck. A few white feathers were found interspersed among the black of the head in one of the female specimens procured in Nubia. I saw it at Thebes, but the bird is not common north of the First Cataract. I cannot account for the circumstance that, of the three specimens of *D. leucopygia* I shot in different parts of Nubia, all were *females*; and of four of *D. leucocephala*, all happened to be *males*.

SAXICOLA PALLIDA, Rüpp. Atl. t. 34. fig. *a*.—P. L. S.

My specimens (two females) were procured in the Thebaid and in Nubia; the length of one was 7 inches, the other $6\frac{1}{8}$ in. This species is not common, at least during the cold months. It frequents the open country, flies at great speed, and was observed catching insects on wing.

SAXICOLA LUGENS, Licht. Doubl. p. 33 : Bp. Consp. p. 303.

Decreases in numbers southwards, and is not nearly so common in Nubia as in Egypt. The pale russet of the vent is always present in the Egyptian bird; whereas, in specimens I have examined from the Crimea and in India, the under tail-coverts were *white* *. Average length of several specimens of both sexes, measured in the flesh, $6\frac{4}{16}$ inches.

SAXICOLA DESERTI, Rüpp.—P. L. S.

This is the common Desert Chat along the margin of cultivation in Egypt and Nubia. The russet of the upper parts of males was observed to vary in brilliancy, and the black of the throat in some was a good deal tipped with grey. The rump was pale russet in one male specimen procured at Thebes.

SAXICOLA CENANTHE.

Females predominate. The Egyptian Wheatears were larger than any I procured at Malta, the plumage a shade lighter, and bill heavier: they seem to agree with var. *rostrata* † of Ehrenberg. I have forwarded specimens ‡.

* *S. leucomela* (Pall.): Gray, Gen. of Birds, i. p. 178.

† *Ibis*, vol. i. p. 39.

‡ The specimens forwarded appear to be *S. isabellina*, Rüpp.—P. L. S.

PETROCINCLA CYANEA.

The Blue Thrush is not, apparently, common in Egypt. I procured one among the rocks at the First Cataract, but saw no more.

PYCNONOTUS ARSINOË (Licht.).—P. L. S.

This Bulbul is common in winter among the palm-trees at Wadee Halfeh, below the Second Cataract, which is probably its northern limit, as I failed in observing it further down. The plumage of both sexes is exactly alike. The male measures 8 inches, the female $7\frac{3}{4}$ in. in length. Generally seen in pairs, flitting among the palm-branches. Its mellow chirping note sounded sweetly through the grove, and brought back old associations of the Himalayan and Indian jungles, where I had been familiar with several of its close allies, to wit, the *P. hæmorrhous*, which it resembles, except in not having the red vent of that species.

ANTHUS RUFIGULARIS.

Is very common in fields both in Egypt and Nubia. The red throat in both sexes varies very much in extent and intensity; specimens may be procured scarcely different from *A. pratensis*; it is, however, at least, a permanent race, and comes in at Malta in spring, after the other species (which is a winter resident) has left. Its call is softer and more prolonged than that of the Titlark. The male, in the flesh, measures 6 inches, the female $5\frac{1}{2}$ in. in length.

BUDYTES FLAVA.

Is common in flocks in fields, among long grass and grain, all over Egypt to the First Cataract. Experience shows that *B. cinereocapilla* and *B. melanocephala* are most probably only varieties of this species. At Thebes, in December, I procured several individuals from one flock, in which the white streak above and behind the eye was wanting; the heads of the males varying from a lead-grey to olive-brown among many which had all the characters of *B. flava*. I have observed the same in Malta in April and September, during the birds' migrations, and at that time procured individuals with leaden-black heads, among others which might be considered good specimens of *B. flava* and

B. cinereocapilla. The yellow of the lower parts varies in extent and intensity in males, being often faint towards the throat, which in some is pure white. The mottling on the breast is often present in the adult. The female seems never to lose the white streak over the eye, and, except that the crown is darker than the back during the breeding-season, I have not been enabled to meet with any decided distinctions to match the grey- and black-headed varieties. In the South of Europe, North Africa, and Egypt it would appear that the *B. melanocephala* is the rarest variety; but the blackness of the head of this form is not, seemingly, so intense as that of the Indian bird (*B. viridis*)*.

MOTACILLA ALBA.

I saw many on their way southwards in the end of October, when sailing between Malta and Egypt. It is the most common and extensively distributed of the birds of Egypt and Nubia, proceeding far south of the Second Cataract. Another bird, generally mistaken for the Swallow, and conjectured by Champollion to represent a Sparrow, is figured in the hieroglyphic legends as the type of ‘an impure or wicked person.’ I believe it to be the Wagtail; and it is worthy of remark that this bird is still called, in Egypt, ‘Aboo Fussad’ (the father of corruption†).” I must say, I cannot understand what induced the “wise men of the East” to rank this delightful denizen of the country among their birds of bad omen.

MOTACILLA LUGUBRIS, Pall.

Is often seen among the rapids of the cataracts, and rarely elsewhere on the Nile. The male measures $6\frac{1}{2}$ inches in length. The call is louder and sharper than that of *M. alba*, and resembles the chirp of the Canary. It is familiar, and often came on board our boat whilst lying in one of the creeks among the rapids of the First Cataract. There is considerable similarity, both in habits and appearance, between *M. lugubris* and the Indian *Henicuri*. Like the latter, it delights to sport around the foaming cataract, fluttering from one torrent-worn boulder to another,

* Blyth, Cat. As. Soc. Mus. p. 325.

† Wilkinson, *op. cit.* vol. ii. p. 214.

or to run with an agile step along the margins of the little eddying bays.

MOTACILLA BOARULA.

Was met with in its usual retreats, as far south as Nubia.

LANIUS DEALBATUS, De Philippi.—P. L. S.

I met with only one specimen of this Shrike, which was procured in Nubia. I see no difference between it and *L. excubitor*, although the semilunar lines of the female are wanting in the Nubian bird. I send a specimen for comparison with *L. dealbatus* of North Africa.

CORVUS CORAX.

CORVUS CORNIX.

The Raven is plentiful in Egypt and among the rocky parts of Nubia. I have seen small flocks in Lower Egypt in November. The Hooded Crow is rare in Nubia, but one of the most common and familiar birds of Egypt. I have taken its eggs in December. In Lower Egypt the Kestrel may be seen perched on the branch of a date-tree, screaming lustily, whilst the Hooded Crow, in a bullying and very impertinent manner, keeps pouncing close to him, and so tormenting the little Hawk that the latter has often to make a bolt of it. Again, as the Black Kite is stooping on his food, the Carrion Crow may be seen hastening to the scene, and frequently, by continual bullying, he will oblige the Kite to yield up the prize; for the Carrion Crow is a bold marauder, and never shrinks from disputing his priority even with the Griffon and Cinereous Vultures.

STURNUS VULGARIS.

Often observed in flocks in Lower Egypt during the winter months.

PASSER SALICICOLA (Vieill.): Bp. Consp. p. 509.

Is extensively distributed over Egypt, but is not common in Nubia. It may often be seen associating with the Domestic species. Flocks of the two frequently become intermixed; but their habits are in many ways different; and as there is seemingly no variety of one or the other, it may be conjectured that they never breed together. Both are gregarious, and build in

trees; the Domestic Sparrow in houses also, preferring, as usual, the habitations of man and the dust and dirt of the crowded city and mud huts to the open country, where the other takes up its quarters. In November and December, during the ripening of the dhurra, Spanish Sparrows assemble in enormous numbers, and commit much damage to the crop*. In consequence of this at early morn men and boys armed with slings repair to the fields to frighten away the crowds of these birds which are seen scouring across the country and attempting to settle on the ears of grain. Any evening at that season, just as the sun dips behind the grey-white limestone-cliffs close to the ancient Necropolis of Thebes, dense flocks of Spanish Sparrows may be seen constantly passing southwards to their roosting-quarters in the little island at Luxor. The sudden rush overhead of thousands of wings is startling, whilst the eccentric-like oscillations and wheelings to and fro of the vast living masses are singularly strange and beautiful. I fancy Mr. Taylor must have mistaken the Domestic Sparrow for the Italian *P. italia* (Vieill.)†. I have not seen the bird with maroon crown and unicolor sides in Egypt or Nubia. The only variety of *P. salicicola* I have noticed is in Malta, where I made a large series, and found that although the Spanish is the Sparrow of that island, there are shades of plumage intermediate between it and the *P. italia*, showing a well-marked gradation from the one to the other. I must, consequently, differ from Dr. Bree ‡, and consider the Italian Sparrow more closely allied to the Spanish than to the Domestic species.

LINOTA CANNABINA.

ERYTHROSPIZA GITHAGINEA.

I put these two pretty little Finches together, as I was surprised to find them so often associated in Egypt. Along the confines of cultivation and rocky situations bordering on the desert, the clear tinkling call of the Trumpeter Bullfinch is heard,

* "When the ancient Egyptians meant to express 'evil actions,' they drew a bird like a Finch."—*Bunsen*.

† Ibis, vol. i. p. 48.

‡ Birds of Europe, vol. iii. p. 131.

where often the colour of its plumage prevents its being seen. It breeds among the old tombs at Thebes, associating there with the Domestic Sparrow. In Nubia the Sparrow-Hawk may be often observed sweeping around a cliff, with one of these birds in its talons, pursued by the loud lamentations of the whole flock, uttered in their characteristic clear and musical notes. They begin to pair about the end of January; but for some time beforehand the males may be observed making constant approaches and coquetting around the females, who long resist their attentions. At that time, although the testes in the male are fully developed, the ovaries of the females are unchanged. This circumstance I have often noticed in respect to other species, viz. that constant attentions on the part of the male seem to be required before the aphrodisiacal tendency is aroused in the other sex, and moreover (as any one who has paid sufficient attention to the habits of gregarious birds will observe) that it is the handsomest, largest, and strongest males who are the most assiduous in the love-making season. In the above instance I noticed a marked confirmation of the latter remark, the "gallants" being the largest and richest in plumage. The same may be noticed in the case of Sparrows, Linnets, &c.

CERTHILAUDA DESERTORUM (Stanley): Rüpp. Syst. Ueb. p. 78.—P. L. S.

Is not uncommon, either solitary or in small flocks, around the pyramids and along the edge of the desert to Nubia. It runs at great speed, with a very erect carriage, stopping every few yards. The male varies from $8\frac{1}{2}$ to $8\frac{3}{4}$ inches in length; the female, $8\frac{1}{4}$ to $8\frac{1}{2}$. The plumage of the latter is more clouded. At Beni Hassan I came on a flock associated with the *Cursorius isabellinus*.

GALERIDA CRISTATA.

Is most plentiful during the cold months in all cultivated districts of Egypt and Nubia.

GALERIDA ISABELLINA (Temm.): Rüpp. S. U. p. 78.—P. L. S.

Is common in waste and stony deserts; for instance, around the Necropolis and valley leading to the Tombs of the Kings at Thebes. The transparency of its wings and their pale isabella-

colour are very noticeable. All I shot were $5\frac{1}{6}$ inches in length. I saw it often in Nubia.

MIRAFRA, sp.*

Is not uncommon, and usually met with in pairs, on desert wastes and around ruined buildings in Nubia. The male measures $6\frac{1}{4}$, the female 6 inches in length. It feeds on seeds, and has the same habits as the last; its call-note is loud and Linnet-like. Sexes alike in plumage.

AMMOMANES PALLIDA, Cab. Mus. Hein. p. 125: Tristram, Ibis, 1859, p. 423.—P. L. S.

Is not uncommon on the deserts of Nubia, and usually seen in small flocks. It runs at great speed, and, like the other Sand-larks, stops every few steps. It has a call-note very like that of the Trumpeter Bullfinch, which it resembles in its flight. The iris is hazel. ♂ $5\frac{1}{2}$, ♀ $5\frac{1}{4}$ inches in length.

OXYLOPHUS GLANDARIUS.

Is most usually seen solitary, sitting among the dense foliage of an acacia. It is tame, and easily approached. Often met with both in Nubia and Egypt.

CRATEROPUS ACACIÆ (Rüpp.).—P. L. S.

I first noticed this Bush-babbler in a thicket of acacia near Der, the capital of Nubia. It frequents bushy situations along the river-bank, and is usually seen in flocks of from six to twelve. Like its congeners, its flight is feeble, and call chattering and garrulous, and uttered as it flies from bush to bush, where it often secretes itself. It breeds in January. There is considerable difference in size between the sexes and even individuals. Old males average 10 inches in length. The edges and inside of the mouth are yellow. I believe neither this nor any of the subfamily *Timalinæ* is found northward of Der, at all events below the First Cataract. The above species seemed to increase towards the Second Cataract, where it is common in bushy

* This *Mirafra* I cannot at present satisfactorily determine. It does not seem to be included in Rüppell's or Heuglin's catalogues. I thought it might be *Mirafra cordofanica*, Strickland (P. Z. S. 1850, p. 218, pl. 23), but it appears to be different from that species.—P. L. S.

situations. The iris in the adult is yellow, paler in young birds.

COLUMBA LIVIA.

In Egypt it is not easy to define the limits between the wild and domesticated Pigeons, their plumage being so much alike. The denizens of the dove-cots all preserve the leading characteristics of *C. livia*. Many-coloured birds are uncommon. The two black bars on the wings, and single black bar on the tail, with the white on the edges of the outer tail-feathers, were present in all the tame birds I have examined. The permanence of colouring may be owing to the circumstance that no pains whatever are taken to improve the breed. Each town and village has many dove-cots, which are usually the joint property of several persons; the Pigeons are only kept for their dung, and allowed to shift for themselves. In some districts, as at Sioot, it is marvellous the numbers seen crowding round these mud-built cots, or feeding in the fields. The most common Domestic variety answers to the *C. schimperi* of Bonaparte; but individuals in all respects agreeing with *C. livia* and *C. schimperi* may also be met with among the rocks. No doubt stragglers from the towns often take to the wild life; indeed, at best they are only half domesticated in the dove-cots, where I have seldom seen a pied or white pigeon. The many-coloured varieties are, however, reared in the native houses, and sometimes join flocks of the other; but they rarely interbreed. From these circumstances it would appear that the Domestic Pigeon of Egypt has reverted very much towards its original wild state. On one of the walls of the Temple of Medinet Haboo is a sculpture of the time of Rameses III., B.C. 1297, representing that famous monarch as having just assumed the crown of Upper and Lower Egypt. The procession is seen moving on in regal state, and in all the pomp and splendour of the time, whilst a priest is letting off four Carrier Pigeons to announce the glad tidings to every quarter of the globe. This is very interesting, as it shows Pigeons were then used for the purpose of conveying information. According to Horapollo, the flesh of Pigeons was greatly esteemed, and there are records of their having been eaten as early as B.C. 3000.

TURTUR SENEGALENSIS.

Universally distributed over the habitable parts of Egypt and Nubia. Breeds in Cairo and other towns in the lower country. Horapollo says, when the ancients wished to represent "a woman who remains a widow till death," they drew a *black Dove*. Neither Doves nor Pigeons have been found embalmed.

PTEROCLES EXUSTUS.

Is common in Upper Egypt, where, with the other species, it is known by the native name "Gutta." Its pointed tail and black belly distinguish it on wing, when it is likewise recognized (as, indeed, are all the Sand-Grouse) by its continual gurgling call. The various species live much in the same way, repairing to the desert during the day, and the young wheat fields, &c., at dusk and early morn. They feed extensively on the dhurra. This Pintail breeds in June; its nest is simply a hole in the sand, with a circle of dried grass to preserve the shape. Several old nests were seen near Ombos, below the First Cataract. The wounded bird spreads out its tail and wings, hiding its head under the breast, and emits a series of chuckles, like a fowl. Although its flight is strong, it is not difficult to shoot, provided the sportsman is not too precipitate. As I found in India, its flesh is very dry; indeed such is the case with all the family: the only passable way of making them fit for the table is by removing the skin before they are cooked.

PTEROCLES CORONATUS, Licht.

The only occasion I met with this handsome Sand-Grouse was whilst seated among the rocks of the Second Cataract, watching Vultures devouring a camel. A flock alighted on a sand-bank, and rushed in a body to the water, and drank like Pigeons. I was fortunate in being enabled to bag two brace on that occasion. The measurements of both sexes were alike, being in length 12 inches. I saw *P. senegalensis* often on wing, and identified several specimens in collections made in the Thebaid. I could not learn that *P. alchata* has been met with in the country.

GALLUS, sp.

The bird called "Chick" by antiquaries, and which represents the vowel *o* or *u*, as in the Oval of SHORO, is probably the

young of the Domestic Fowl. The rudimentary state of the wings, and bulging of the abdomen at the vent, are in favour of its being at least the young of some species. Fowls, however, do not appear on the monuments of Egypt, perhaps for the reason assigned by Sir Gardner Wilkinson, that they were in universal use as an article of food.

AMMOPERDIX HEYII (Temm.).

This species is closely allied to *A. bonhamii* of Afghanistan and the north-western Punjab*. It has likewise a marked resemblance to that bird in habits, frequenting bare rocky ravines and low hills; it runs at great speed, and flies strongly, uttering a loud clear whistle. When alarmed, they disperse over the country, and secrete themselves under rocks and fallen boulders. A female measured 10 inches in length. The flesh is pale and tender, but wanting in flavour. The iris is true brown; bill orange, and legs yellow. It is evidently partial to localities; in Nubia I met with small coveys among the rocky parts at Dendor. The traveller Burekhardt mentions a "small species of Partridge with red legs" which he killed occasionally in Nubia†.

COTURNIX DACTYLISONANS.

Is distributed over Egypt and cultivated parts of Nubia, assembling in the wheat-fields in February and March, before its migration northwards across the Mediterranean, which takes place during the middle and latter part of April. It appears among many votives to the gods, and in the bird-catching scenes on the tombs, &c.; it was not sacred, and does not appear to have been found embalmed, possibly for the same reason as the Domestic Fowl.

ŒDICNEMUS CREPITANS.

Is not uncommon, singly or in flocks, on the stony and desert tracts of Nubia and Egypt.

CURSURIUS EUROPEUS.

Was seen several times, and always in small flocks, at different

* *Vide* Gould's 'Birds of Asia,' and Author's list, Proc. Zool. Soc. 1858, p. 503.

† 'Travels in Nubia.'

points on the Arabian side of the desert, between Syene and Cairo.

ÆGIALITES MINOR.

Is plentifully distributed over the shallows of the river, even in Nubia. Muddy fields, after the subsidence of the river, are favourite resorts of this little Plover. Neither *Æ. hiaticula* nor any other species was observed.

PLUVIANUS ÆGYPTIUS.

To this species, as well as the Spur-winged Lapwing, the name *Zic-Zac* is applied by the natives, who, in bird-nomenclature as in other subjects, evince no great accuracy or perception. Every bird of the shape of a Goose or Duck is a "Wiz," according to their naming. It is not easy to see the reason why they should apply the above to the Black-headed Plover, unless that it frequents the same situations, and is consequently mistaken for the other, as this handsome Plover has neither in plumage nor voice any similarity to the Spurwing. The Black-headed Plover is usually seen in pairs, and breeds about March; its flight is rapid, and call loud and piping. One series of notes, when alarmed, resemble the words *chip-chip-hoit*, which it utters on wing, as it wheels past your boat and settles on the bank. It is not at all common above the First Cataract, owing to the absence of sand-banks and islands.

HOPLOPTERUS SPINOSUS.

Is very closely allied to the Lapwings (*Vanellus*, Brisson), both in appearance and habits. There appears to me better reason for considering this species the *Trochilos* of Herodotus* than the last, inasmuch as the well-known narrative of the Greek historian, strange to say, is still current among the Egyptians, and with reference to this bird, which they state, in its capacity of leech-catcher to the Crocodile†, is sometimes shut up within the jaws of the animal when the latter falls asleep on a sand-bank. On such occasions the *Zic-Zac* (زق زق, from its call) applies his spurs to the interior of the Crocodile's mouth, by way of re-

* B. i. 68.

† Burckhardt says it feeds likewise on the digested food thrown up by the Crocodile. ('Travels in Nubia.')

freshening the memory of the latter that his faithful henchman is within, when the monster's jaws reopen immediately, as if his reptilian majesty was sorry for his obliviousness. This addition to the old story was given me on good authority, as being very generally believed among the Nile boatmen. As to the Black-headed Plover, I see no cause to sustain its claim in preference to this species, nor even to the Common Sandpiper and other small aquatic birds which frequent the sand-banks along with Crocodiles. The Spurwing is usually seen in pairs, but it does not breed until March and April. The noisome and garrulous voice of the Zic-Zac has gained it notoriety with Egyptian travellers. Its loud calls, as it stands on a sand-bank jerking its head up and down, or wheeling in circles overhead, serve as a warning to the Crocodile to seek his muddy bed, and many a wary bird to be on the look-out. What Nile voyager who, in vain attempts to outmanœuvre a flock of Geese, has not had his whole labour lost by this prattling intruder?

VANELLUS CRISTATUS.

Replaces the last species to a great extent in Upper Egypt and Nubia. It is common in flocks in fields and along the river-banks, and is remarkably mute during the winter months, its well-known "*pee-wit*" being seldom heard. It is the head of a Lapwing that is represented on the hieroglyphic figures upon the "augural staff" of the gods. This species is also called Zic-Zac by the natives.

GRUS CINEREA.

Was often seen in large flocks in Lower Egypt. Among the interesting zoological scenes depicted on the walls of the tombs at Beni Hassan is a flock of these birds being driven along with other royal presents. Horapollo says, "When they wished to signify a man skilled in heavenly matters, they drew a Crane flying." The great altitude this bird often gains may have suggested that idea. The hieroglyphic figure alluded to appears to me to resemble more the Cormorant than the Crane.

CICONIA ALBA.

CICONIA NIGRA.

The Great White Heron is often observed in Lower Egypt in

large flocks, associated with Night-Herons, Spoonbills, Pelicans, &c. The Black Stork is not so shy nor gregarious, and is frequently met with in fields and by the side of pools.

ARDEA CINEREA.

NYCTICORAX GARDENI (Jard.).

The Cinereous Heron is plentiful all along the river in suitable places. The Night-Heron was often seen, and frequently in large flocks, with other Waders. A Heron is observed on the walls of the tombs with two long plumes; and the fact of being generally coloured a bluish grey would lead to the supposition that one or other of the above is meant, and not the *A. bubulcus* of Savigny, as stated by Wilkinson*. I am inclined, therefore, to think the "Tufted Benoo" (one of the emblems of Osiris) is the "*Night-Heron*."

ARDEA GARZETTA (L.)?

Flocks of a small White Heron with black bill were often seen in the distant and inaccessible shallows and mud-banks, also frequently on wing; I could not, however, ascertain with certainty whether they belonged to the above, to *A. alba* (L.), or to the *A. nigrirostris* of Bonaparte.

BUPHUS RUSSATUS, Bp.

This bird feeds chiefly on frogs, of which it devours large numbers. The call resembles the "bleat" of sheep. The colour of the iris varies from a pale to a bright yellow. The only difference I can perceive between this and the Paddy-bird of India (*A. caboga*, Franklin) is, that the yellowish white, instead of being on the crown, is on the forehead (in Indian specimens at least) during the winter season.

I have seen a specimen of *Ardeola minuta* (Bp.) which was killed in Upper Egypt; and on two or three occasions, below Beni Hassan, I identified flocks of Spoonbills.

IBIS RELIGIOSA.

I can find no reason for considering the Sacred Ibis to have been a native at any time of either Egypt or Nubia, and I doubt very much if it is ever seen south of its haunts at the junction

* *Op. cit.* vol. ii. p. 225.

of the Blue and White Nile. Heuglin found it on the coast of Abyssinia. No doubt it was imported by the ancient Egyptians; and, judging from the numbers which are constantly turning up in the tombs and pits of Sakkara and elsewhere in Egypt, and the accounts of Herodotus, Diodorus, Strabo, &c., the Ibis must have been very numerous, and, like the Brahmin Bull in India, "did as it choosed." The last-named writer says, "Every street in Alexandria is full of them. In certain respects they are useful, in others troublesome. They are useful, because they pick up all sorts of small animals and the offal thrown out of the butchers' and cooks' shops. They are troublesome, because they devour everything, are dirty, and with difficulty prevented from polluting in every way what is clean and what is not given to them."* The late Mr. Rhind informed me that he found several jars full of white eggs as large as a Mallard's, along with many embalmed bodies of Ibises, at Thebes; these, with his valuable collection, have since been presented to the Royal Museum of Antiquities in Edinburgh.

Mummied Ibises are usually found alone, but sometimes with other sacred animals; and although Hermopolis was the patron city of the bird, as Buto of the Kestrel and other Hawks, we find it also among the tombs of Thebes and Memphis. Some authorities think both species of *Ibis* were sacred. The *I. falcinellus* is, I believe, occasionally seen in Egypt, as it is pretty common in the E. Atlas †, and I have shot several in Malta in the beginning of May, and seen others. No doubt the White Ibis was imported into Italy, and kept about the temples of Isis ‡. It was the emblem of Thoth, the scribe or secretary of Osiris, whose duty it was to write down and recount the deeds of the deceased; in consequence the bird is constantly seen on the ancient monuments under various forms. In the gizzards of the mummied specimens unrolled at Thebes I found large pebbles, beads, many shells of *Paludinæ*, but chiefly remains of coleopterous insects, especially of a small black beetle which is common on dung-heaps along the river's bank. All the paintings at Beni Hassan and the Tombs of the Kings represent the *I. religiosa*.

* Strabo, lib. xvii. c. 2.

† Tristram.

‡ See Bulwer's note to b. i. p. 34 of 'The Last Days of Pompeii.'

NUMENIUS ARCUATUS.

Is not uncommon in Egypt during the winter months.

TRINGOIDES HYPOLEUCA.

Is constant all the way to the Second Cataract, and beyond.

TRINGA TEMMINCKII.

Is plentiful about Alexandria and the Delta. I did not see it above Cairo.

TRINGA OCHROPUS.

TRINGA CALIDRIS.

The Green Sandpiper was seen in flocks in the fields near Cairo during the subsidence of the river in November; and solitary individuals were often met with by the sides of pools and canals all the way to the Second Cataract. *T. calidris* was plentiful about Alexandria in February. Both the Common and Jack Snipe were occasionally seen all the way up to the confines of Nubia; and a few specimens of the Painted Snipe (*Rhynchæa bengalensis*) were shot by some friends near Siout. A *Fulica*, apparently of the same size and colour as *F. atra*, with a white crest, was several times seen on the river between Cairo and Thebes. I procured several specimens of the Stilt (*Himantopus melanopterus*) above Cairo. It is not common.

PHŒNICOPTERUS ANTIQUORUM.

Several flocks were seen in Egypt. According to Bunsen, the Egyptians took their idea of *red* from the Flamingo, and accordingly drew it when they meant to express that colour.

ANSER ALBIFRONS.

Is the most common Goose on the Nile, and usually seen in vast flocks at daybreak, returning to the shallows from feeding all night in the wheat-fields. This species decreases southwards, and is rarely seen beyond the marsh at Edfoo. The young birds have a black line around the base of the bill, and no bars on the breast and belly.

The White-fronted and also, seemingly, the Grey Goose were domesticated by the early Egyptians. There is a characteristic delineation in the British Museum, where the steward, in the presence of the owner, is counting geese and ducks, whilst

their feeders, one after another, are making their obeisance to their master. The above species appears likewise among the votive offerings on the temples. I especially noted, in the little temple of Amada, in Nubia, a scene of this description. The colouring was still clear, and the markings distinct, in consequence of having been sealed up for many centuries by mud, with which the early Christians bedaubed the walls of the temples, in order to efface all records of the idol-worship of their predecessors, little aware at the same time what delightful pictures they were preserving for future generations.

CHENALOPEX ÆGYPTIACA.

Is generally seen in small flocks, and although not so numerous as the last, is more extensively distributed. A few were noticed near the Second Cataract. This is assuredly the "Vulpanser"* of Herodotus; it appears frequently on the monuments, and is often delineated with great artistic skill. The richness of the plumage and remarkable appearance of this species, compared with the other Nile Geese, would have naturally attracted the early artists. Wherever the colouring has been preserved, we find usually the head and neck painted red; the breast and belly blue; the back yellow, with the tips of the wings red; the tail with narrow lengthened tail-feathers like the Pintail Duck, which many of the Karnak intaglios more closely resemble. The Goose was the emblem of Sib, the father of Osiris, but was not sacred; it signified a "son," and consequently occurs very often in the Pharaonic ovals, signifying "son of the sun." Horapollo says it was adopted in consequence of its affection for its young.

CASARCA RUTILA.

Occasionally a single bird, at most two, was observed below Siout.

MARECA PENELOPE.

DAFILA ACUTA.

RHYNCHASPIS CLYPEATA.

QUERQUEDULA CIRCIA.

* Book ii. 72.

QUERQUEDULA CRECCA.

ANAS BOSCHAS.

NYROCA LEUCOPHTHALMA.

The Wigeon was identified on two occasions from specimens shot above Cairo, and seen on wing. The Pintail is not uncommon in the shallows of the low country. The Shoveller, Mallard, and Teal are met with in Nubia. The Ferruginous Duck seems to be the most common species; I noticed it among the rapids of the Second Cataract. A Garganey Teal was shot. The ancient Egyptians were evidently in a measure dependent on the wild-fowl of the river. Bird-catching scenes are constantly represented on the temples and tombs. On the walls of the lately excavated temple at Edfoo is observed a scene where a net is being closed over numbers of wild Geese, Ducks, Waders, &c. The Coot is seen running across the meshes, whilst fish are swimming below. Strange to say, along with these are several Oryxes, Gazelles, and a Stag with antlers. The latter idea is decidedly Roman, of which age are both the temple and sculptures. The bird part of the scene is evidently copied from what took place constantly in the Edfoo marsh in the neighbourhood, which has been famous from time immemorial for the quantities of its water-fowl. There are several other strange scenes on the walls of the above temple, representing the hunting of the Hippopotamus.

PHALACROCORAX CARBO.

Is plentiful below Thebes northwards. Flocks roost in the date-trees. It breeds at Manflood. I have frequently noticed a small Cormorant, possibly *P. pygmaeus*.

PELECANUS ONOCROTALUS.

Is usually seen singly or in large flocks. It is not common in Nubia. According to Horapollo, the Pelican was the symbol of a "fool," from its inattention to its young. There is no more characteristic scene on the river than, when the sun is setting in all his fiery beauty, to witness Pelicans, one after another, gliding along so close to the surface of the glassy Nile that they appear as if propelled over a lake of ice.

GELOCHELIDON ANGLICA.

SYLOCHELIDON CASPIA.

Both species are common in Lower Egypt; and occasionally the Gull-billed Tern was seen in Nubia.

XEMA RIDIBUNDUM.

Is very plentiful in Lower Egypt during the subsidence of the river in November, especially about the sluices, where the natives catch small fish. There it and the Black Kite may be seen in great numbers, darting on the banks where the refuse of the fish had been thrown.

LARUS FUSCUS.

The Herring-Gull is common on the river below Beni Hassan. I saw a solitary individual near the Second Cataract; but it is not by any means so frequent in the upper country. I have seen *Larus canus* on wing near Cairo. A little Diver was occasionally noticed in the river, even as high as Thebes, and the same species is very common in the marshes about Alexandria.

II.—*Remarks on the Value of Osteological Characters in the Classification of Birds.* By ALFRED R. WALLACE.

MAY I beg for a few lines to correct a statement of M. E. Blanchard, and to show that it is not by osteology *only* that correct principles of classification are to be arrived at? In his '*Recherches sur les Caractères Ostéologiques des Oiseaux*,' p. 75, M. Blanchard states that "one of the best-characterized and best-defined groups in the class of Birds has been misunderstood by all naturalists except one only (M. P'Herminier)." He then goes on to explain that this group consists of all Passeres except the families now generally classed as Fissirostres (including the Hummers, Swifts, Hoopoes, and Hornbills) and Scansores (including the Barbets and the *Musophagidæ*). M. P'Herminier, it seems, had founded this great group more than thirty years ago from an examination of the sternum, but his work had remained almost unknown to ornithologists; and M. Blanchard has now by his own more extensive researches established the same fact. Previous, however, to M. Blanchard's publication, and without having ever seen or heard of M. P'Herminier's work, I had